Work Order ID 106172

August-28-13 1:06:26 PM

106172

Item ID:	D3646-4	**Accept**	*N900040100*
Revision ID:		**Setup Start**	*NS1*
Item Name:	Arm	**Stop**	*NS2*
Start Date:	8/28/13	**Start Qty:** 8.00	*8*
Required Date:	8/28/13	**Req'd Qty:** 8.00	*8*
Cust Item ID:		**Customer:**	
Reference:			

Run Start *NR1* **Stop** *NR2*

Approvals: **Process Plan:** MLJ **Date:** 13-08-30 **Tooling:** ______ **Date:** ______

QC: ______ **Date:** ______ **SPC (Y/N):** ______ **Date:** ______

Draw Nbr	Revision Nbr
D3646	C

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
100 *100* Brake NC Brake NC	NC BRAKE **Memo** 1-Punch to length as per Dwg D3646 & template DT8959	0.00 0.00				8			FF 13-10-16
110 *110* Small Fab Small Fab	Small Fab **Memo** 1-Deburr 2- Bend as per dwg D3646	0.00 0.00				8			FF 13-10-16
120 *120* QC Quality Control	QC5- Inspect part completeness to step on W/O **Memo**	0.00 0.00	DAS 27 9-89 13-10-16			8			

DQA: ________ Date: ____________

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: Date:

Work Order: ________________________

Part No. ________________________

NCR No. ________________________

DISPOSITION

- Rework ☐
- Scrap ☐
- Use-as-is ☐
- Work Order Update ☐

AGAINST DEPARTMENT/PROCESS

Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐
Machining ☐	Small Fab ☐	Prod. Eng. Coor. ☐	Quality ☐
Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐
Large Fab ☐	Composite ☐	Supplier ☐	☐

Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data ☐									
Equip/Tooling ☐									
Operator ☐									
Material ☐									
Setup ☐									
Other ☐									
Process ☐									
Supplier ☐									
Training ☐									
Unapproved ☐									

FAULT CATEGORY

Landing Gear	**General**			
☐ Bending	☐ Bend	☐ Grain	☐ Ovalized	☐ Pressure/Forced
☐ Centre Not Concentric to O/S	☐ BOM/Route	☐ Hardware	☐ Over/Under tolerance	☐ Temperature/Cure
☐ Cracks	☐ Broken/Damaged	☐ Inspection Incomplete	☐ Part Incorrect	☐ Weld
☐ Crushed/Crimped	☐ Burrs	☐ Instructions Incomplete/Unclear	☐ Part Lost/Missing	☐ Wrong Stock Pulled
☐ Cuffs	☐ Contamination	☐ Maintenance	☐ Part Moved	
☐ Heat Treat	☐ Countersink	☐ Mislabeled	☐ Positioned Wrong	
☐ Inspection Strip in Tube	☐ Cut Too Short	☐ Misread	☐ Power Loss/Surge	☐ Other
☐ Ripples in Bend	☐ Drill Holes	☐ Offset		
☐ Torque Waves in Extrusion	☐ Drawing	☐ Out of Calibration		
☐ Turning Sequence	☐ Finish	☐ Out of Sequence		
☐ Wave/Twist in Tube	☐ Folio	☐ Outside Dimensions		

Work Order ID 106172 *106172*

August-28-13 1:06:26 PM

Item ID: D3646-4
Revision ID:
Item Name: Arm
Accept *N900040100*
Setup Start *NS1*
Stop *NS2*

Start Date: 8/28/13 **Start Qty:** 8.00 *8*
Required Date: 8/28/13 **Req'd Qty:** 8.00 *8*
Cust Item ID:
Customer:
Reference:

Run Start *NR1*
Stop *NR2*

Approvals: **Process Plan:** ______ **Date:** ______ **Tooling:** ______ **Date:** ______
QC: ______ **Date:** ______ **SPC (Y/N):** ______ **Date:** ______

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130 *130* Powdercoat Powder Coating	Black Sandtex(Ref:4.3,5,7) per QSI005 4.3 M 113338. Memo START TIME: 11:10 OVEN TEMPERATURE: 350° FINISH TIME: 11:40	0.00 0.00				8	⌀	13-10-16.	DAS 34 9-89
140 *140* QC Quality Control	QC3- Inspect Part Finish Memo	0.00 0.00	DAS 27 9-89 13.10.16			8			
150 *150* Packaging Packaging	Identify as per dwg & Stock Location: ST227 Memo	0.00 0.00				8X	DAS 28 9-89	13-10-16	

DQA: ________ Date: ____________

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: Date:

Work Order: ______________	**DISPOSITION**	**AGAINST DEPARTMENT/PROCESS**			
Part No. ______________	Rework ☐	Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐
NCR No. ______________	Scrap ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coor. ☐	Quality ☐
	Use-as-is ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐
	Work Order Update ☐	Large Fab ☐	Composite ☐	Supplier ☐	☐

Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data ☐									
Equip/Tooling ☐									
Operator ☐									
Material ☐									
Setup ☐									
Other ☐									
Process ☐									
Supplier ☐									
Training ☐									
Unapproved ☐									

FAULT CATEGORY

Landing Gear	General			
☐ Bending	☐ Bend	☐ Grain	☐ Ovalized	☐ Pressure/Forced
☐ Centre Not Concentric to O/S	☐ BOM/Route	☐ Hardware	☐ Over/Under tolerance	☐ Temperature/Cure
☐ Cracks	☐ Broken/Damaged	☐ Inspection Incomplete	☐ Part Incorrect	☐ Weld
☐ Crushed/Crimped	☐ Burrs	☐ Instructions Incomplete/Unclear	☐ Part Lost/Missing	☐ Wrong Stock Pulled
☐ Cuffs	☐ Contamination	☐ Maintenance	☐ Part Moved	
☐ Heat Treat	☐ Countersink	☐ Mislabeled	☐ Positioned Wrong	
☐ Inspection Strip in Tube	☐ Cut Too Short	☐ Misread	☐ Power Loss/Surge	☐ Other ______
☐ Ripples in Bend	☐ Drill Holes	☐ Offset		______
☐ Torque Waves in Extrusion	☐ Drawing	☐ Out of Calibration		______
☐ Turning Sequence	☐ Finish	☐ Out of Sequence		______
☐ Wave/Twist in Tube	☐ Folio	☐ Outside Dimensions		

Work Order ID 106172 *106172*

August-28-13 1:06:26 PM

Item ID: D3646-4 **Accept** *N900040100* **Setup** **Start** *NS1*

Revision ID:

Item Name: Arm **Stop** *NS2*

Start Date: 8/28/13 **Start Qty:** 8.00 *8* **Cust Item ID:**

Required Date: 8/28/13 **Req'd Qty:** 8.00 *8* **Customer:**

Reference:

Run **Start** *NR1*

Approvals: **Process Plan:** ______ **Date:** ______ **Tooling:** ______ **Date:** ______

QC: ______ **Date:** ______ **SPC (Y/N):** ______ **Date:** ______ **Stop** *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
160 *160*	QC21- Final Inspection - Work Order Release	0.00							
QC Quality Control	**Memo**	0.00							

RL 13-10-17

RL 13-10-17

DQA: ________ Date: ______________

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: Date:

Work Order: ______________________

Part No. ______________________

NCR No. ______________________

DISPOSITION

Rework ☐
Scrap ☐
Use-as-is ☐
Work Order Update ☐

AGAINST DEPARTMENT/PROCESS

Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐
Machining ☐	Small Fab ☐	Prod. Eng. Coor. ☐	Quality ☐
Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐
Large Fab ☐	Composite ☐	Supplier ☐	☐

Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data ☐									
Equip/Tooling ☐									
Operator ☐									
Material ☐									
Setup ☐									
Other ☐									
Process ☐									
Supplier ☐									
Training ☐									
Unapproved ☐									

FAULT CATEGORY

Landing Gear	**General**			
☐ Bending	☐ Bend	☐ Grain	☐ Ovalized	☐ Pressure/Forced
☐ Centre Not Concentric to O/S	☐ BOM/Route	☐ Hardware	☐ Over/Under tolerance	☐ Temperature/Cure
☐ Cracks	☐ Broken/Damaged	☐ Inspection Incomplete	☐ Part Incorrect	☐ Weld
☐ Crushed/Crimped	☐ Burrs	☐ Instructions Incomplete/Unclear	☐ Part Lost/Missing	☐ Wrong Stock Pulled
☐ Cuffs	☐ Contamination	☐ Maintenance	☐ Part Moved	
☐ Heat Treat	☐ Countersink	☐ Mislabeled	☐ Positioned Wrong	
☐ Inspection Strip in Tube	☐ Cut Too Short	☐ Misread	☐ Power Loss/Surge	☐ Other
☐ Ripples in Bend	☐ Drill Holes	☐ Offset		
☐ Torque Waves in Extrusion	☐ Drawing	☐ Out of Calibration		
☐ Turning Sequence	☐ Finish	☐ Out of Sequence		
☐ Wave/Twist in Tube	☐ Folio	☐ Outside Dimensions		

Picklist Print

August-28-13 1:06:29 PM

Work Order ID: 106172 *106172*

Parent Item: D3646-4 *D3646-4*

Parent Item Name: Arm

Start Date: 8/28/13 **Required Date:** 8/28/13

Start Qty: 8.00 **Required Qty:** 8.00

Comments: IPP revA 11.07.12 new issue EC verified by:JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M304TR0.500W.035		Purchased	No			100	f	485.0001	3.1	26.10526			
M304TR0.500W.035									**			FF 13-10-16	
304 RD Tube .500 x .035W													

Location	Loc Qty	Loc Code	
MAT017 126922	485.00013		26.10526
118702	0.00003		
123303	138.9645		
125513	346.0356		

DQA: ________ Date: ____________

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

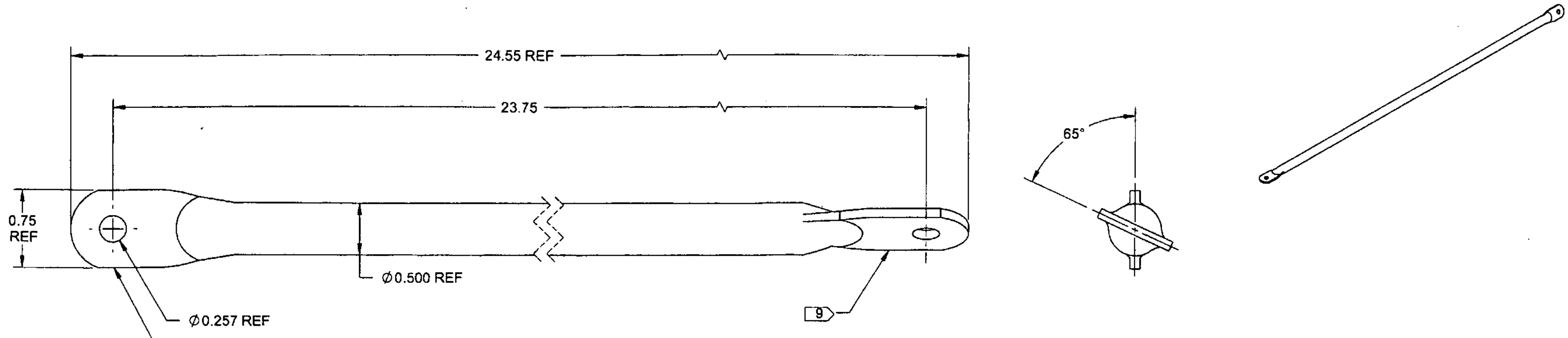
QA Closed: Date:

Work Order: ____________	**DISPOSITION**	**AGAINST DEPARTMENT/PROCESS**			
Part No. ____________	Rework ☐	Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐
NCR No. ____________	Scrap ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coor. ☐	Quality ☐
	Use-as-is ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐
	Work Order Update ☐	Large Fab ☐	Composite ☐	Supplier ☐	☐

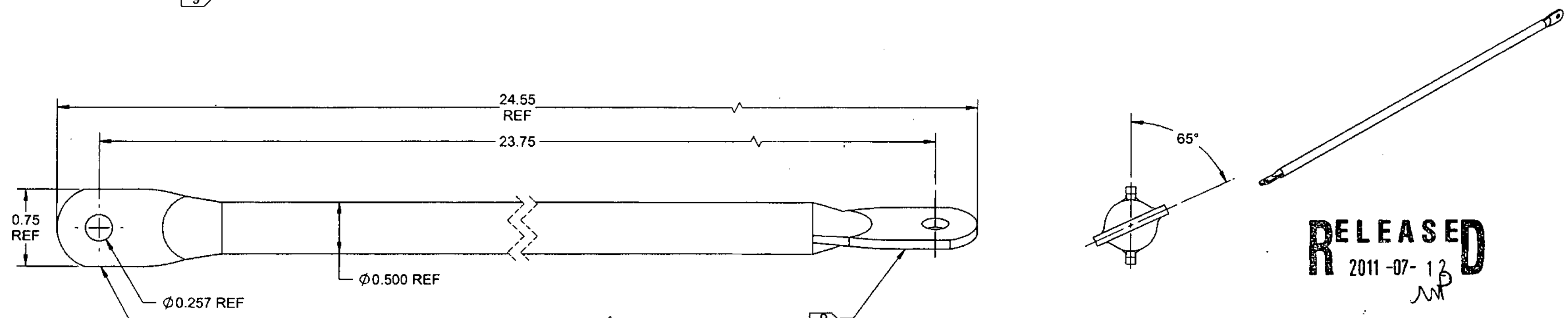
Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data ☐									
Equip/Tooling ☐									
Operator ☐									
Material ☐									
Setup ☐									
Other ☐									
Process ☐									
Supplier ☐									
Training ☐									
Unapproved ☐									

FAULT CATEGORY

Landing Gear	**General**			
☐ Bending	☐ Bend	☐ Grain	☐ Ovalized	☐ Pressure/Forced
☐ Centre Not Concentric to O/S	☐ BOM/Route	☐ Hardware	☐ Over/Under tolerance	☐ Temperature/Cure
☐ Cracks	☐ Broken/Damaged	☐ Inspection Incomplete	☐ Part Incorrect	☐ Weld
☐ Crushed/Crimped	☐ Burrs	☐ Instructions Incomplete/Unclear	☐ Part Lost/Missing	☐ Wrong Stock Pulled
☐ Cuffs	☐ Contamination	☐ Maintenance	☐ Part Moved	
☐ Heat Treat	☐ Countersink	☐ Mislabeled	☐ Positioned Wrong	
☐ Inspection Strip in Tube	☐ Cut Too Short	☐ Misread	☐ Power Loss/Surge	☐ Other
☐ Ripples in Bend	☐ Drill Holes	☐ Offset	____________	
☐ Torque Waves in Extrusion	☐ Drawing	☐ Out of Calibration	____________	
☐ Turning Sequence	☐ Finish	☐ Out of Sequence	____________	
☐ Wave/Twist in Tube	☐ Folio	☐ Outside Dimensions	____________	



D3646-1 ARM



D3646-2 ARM (C)

RELEASED 2011-07-12

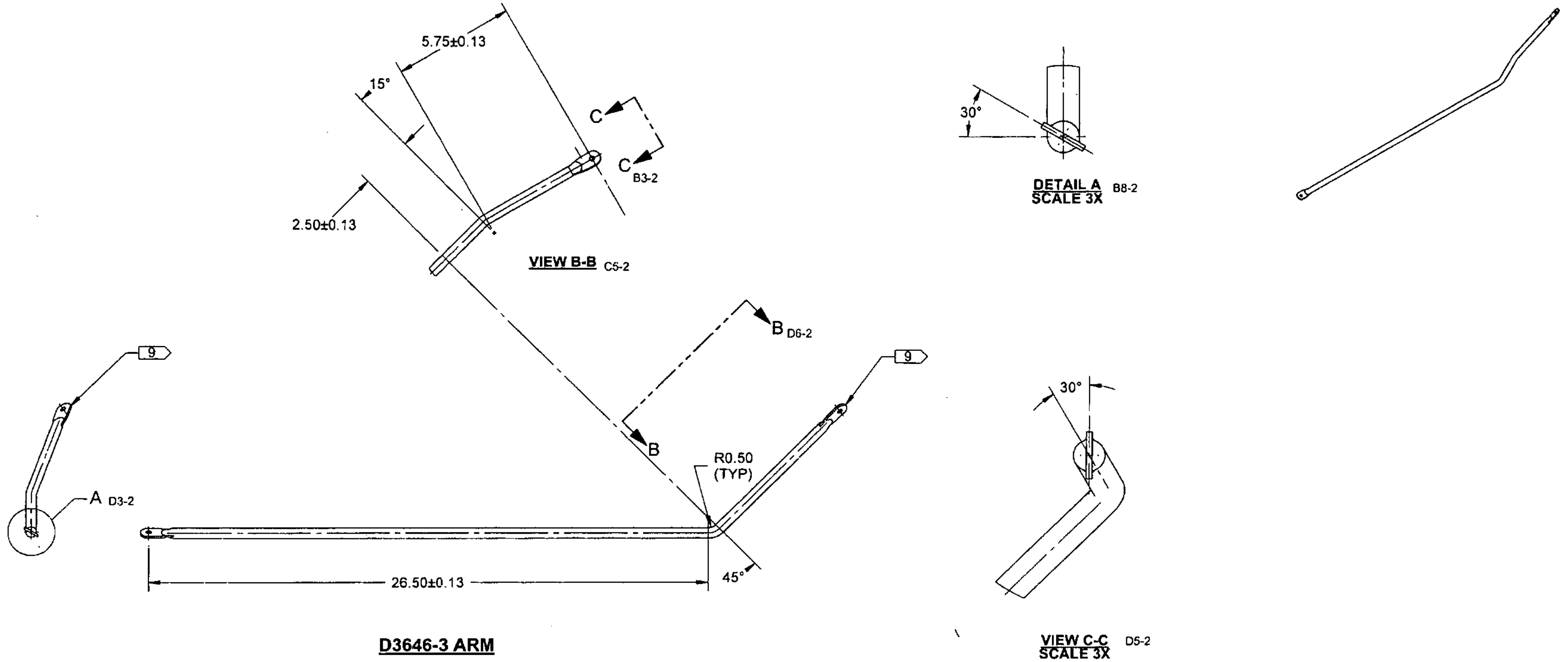
NOTES:
1) MATERIAL: AISI 304/316 SS TUBE Ø0.500 X 0.035 WALL PER ASTM A213/A269 OR ASME A213 (REF DART SPEC. M304TR0500W.035)
2) FINISH: POWDER COAT "BLACK SANDTEX" (4.3.5.7) PER DART QSI 005 4.3
3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
4) UNITS: INCHES UNLESS OTHERWISE NOTED
5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
6) IDENTIFICATION: IDENTIFY WITH DART P/N "D3646-X" AND B/N "BXXXXX" PER DART QSI 044 6.1 USING REMOVABLE TAG
7) WEIGHT: 0.38 lbs
8) DELETED AT REV. C (C)
9) PUNCH BOTH ENDS PER SPEC CONTROL DWG D2727

REV.	DESCRIPTION	BY	DATE
C	ADD-2 & -4 FOR LHS INSTALLATION. DELETE REFERENCES TO TEMPLATES (NOTE 8) PER SHOP REQUEST.	AJS	11.07.11
B	REFORMAT DWG, ANGLE 65° WAS 45° (ZN C3-1), ADD IDENTIFICATION TAG (ZN A8-1, A8-2)	CP	09.06.04
A	NEW ISSUE	MB	07.06.06

DESIGN	MB	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA
DRAWN	AJS	
CHECKED	[signature]	DRAWING NO. D3646 — REV. C — SHEET 1 OF 3
MFG. APPR.	[signature]	
APPROVED	[signature]	TITLE ARM — SCALE NTS
DE APPR.	[signature]	
DATE	11.07.11	

106172 MLJ
13-08-30

10617Z

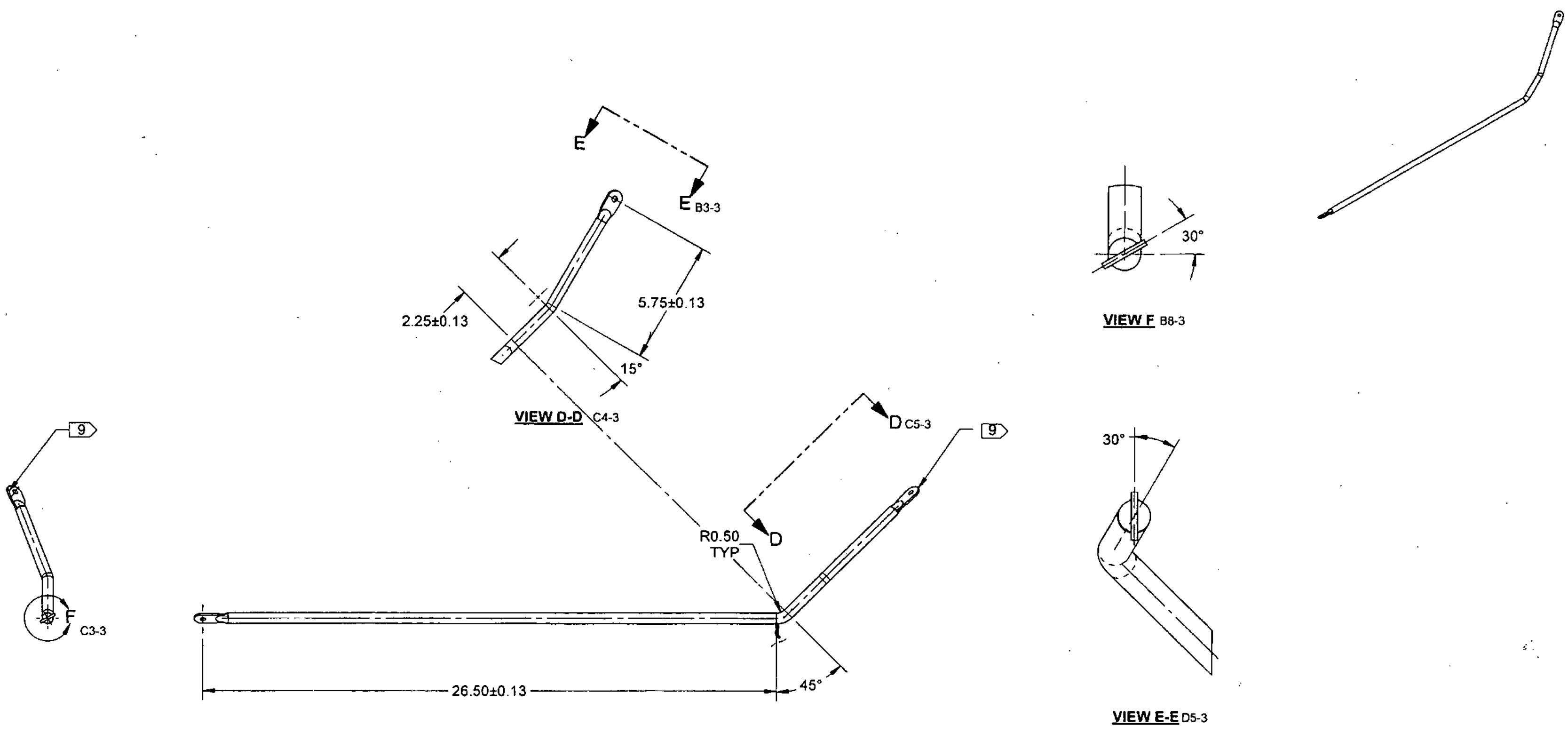


RELEASED 2011-07-13

NOTES:
1) MATERIAL: AISI 304/316 SS TUBE Ø0.500 X 0.035 WALL PER ASTM A213/A269 OR ASME A213 (REF DART SPEC. M304TR0500W.035)
2) FINISH: POWDER COAT "BLACK SANDTEX" (4.3.5.7) PER DART QSI 005 4.3
3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
4) UNITS: INCHES UNLESS OTHERWISE NOTED
5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
6) IDENTIFICATION: IDENTIFY WITH DART P/N "D3646-3" AND B/N "BXXXXX" PER DART QSI 044 6.1 USING REMOVABLE TAG
7) WEIGHT: 0.57 lbs
8) DELETED AT REV C. (C)
9) PUNCH BOTH ENDS PER SPEC CONTROL DWG D2727

DESIGN	MB	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA
DRAWN	AJS	
CHECKED	[signature]	DRAWING NO. D3646 — REV. C — SHEET 2 OF 3
MFG. APPR.	[signature]	
APPROVED	[signature]	TITLE ARM — SCALE NTS
DE APPR.	[signature]	
DATE	11.07.11	

106172



D3646-4 ARM

RELEASED 2011-07-12

NOTES:
1) MATERIAL: AISI 304/316 SS TUBE ⌀0.500 X 0.035 WALL PER ASTM A213/A269 OR ASME A213 (REF DART SPEC. M304TR0500W.035)
2) FINISH: POWDER COAT "BLACK SANDTEX" (4.3.5.7) PER DART QSI 005 4.3
3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
4) UNITS: INCHES UNLESS OTHERWISE NOTED
5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
6) IDENTIFICATION: IDENTIFY WITH DART P/N "D3646-4" AND B/N "BXXXXX" PER DART QSI 044 6.1 USING REMOVABLE TAG
7) WEIGHT: 0.57 lbs
8) DELETED AT REV C. (C)
9) PUNCH BOTH ENDS PER SPEC CONTROL DWG D2727

DESIGN	MB	**DART AEROSPACE LTD** HAWKESBURY, ONTARIO, CANADA
DRAWN	AJS	DRAWING NO. D3646 — REV. C — SHEET 3 OF 3
CHECKED	[signature]	
MFG. APPR.	[signature]	
APPROVED	[signature]	TITLE ARM — SCALE NTS
DE APPR.	[signature]	
DATE	11.07.11	

DART AEROSPACE LTD

DART AEROSPACE

Description:	ARM	Work Order:	106172
Inspection Drawing: D3646	Rev: C	Part Number:	D3646-4

INSPECTION SHEET

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
26.50	+/-.130	26.50	✓		T	SFAB-07
45°	+/- 1/2°	45°	✓		Angle meter	SFAB-04
2.25	+/-.130	2.25	✓		T	SFAB-07
15°	+/- 1/2°	15°	✓		Angle meter	SFAB-04
5.75	+/-.130	5.75	✓		T	SFAB-04
30°	+/- 1/2°	30°	✓		Angle meter	SFAB-07

Measured by: FFranken	Checked By: SB	QC inspector: DAS 27 9-89	Engineering Approval (*if necessary*):
Date 13-10-16	Date 13/10/16	Date 13 10 16	Date